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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,233	07/24/2003	Kazuyoshi Ueno	NEC 1030 DIV	1290
27667	7590	07/26/2004	EXAMINER	
HAYES, SOLOWAY P.C. 130 W. CUSHING STREET TUCSON, AZ 85701			GUERRERO, MARIA F	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,233

Applicant(s)

UENO, KAZUYOSHI

Examiner

Maria Guerrero

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11, 13, 14, 18 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 13, 14, 18 and 20-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/273,627.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7-24-03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action in response to the preliminary amendment filed July 24, 2003.

Claims 7-10, 12, 15-17, 19, and 32 are canceled

Claims 1-6, 11, 13, 14, 18, 20-31 are pending.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/273,627, filed on March 23, 1999.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 21-28 are objected to because of the following informalities: claim 21 recites "said film is deposited on said substrate while a is applied to said substrate or film deposited thereupon. Claim 27 recites "a semiconductor device manufacturing method apparatus according to claim 21". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 21-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "said vapor phase material, said d.c. electrical potential" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 18, and 21-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Loan et al. (U.S. 6,136,725).

Loan et al. teaches a semiconductor device manufacturing apparatus having a vaporizer and a power supply (Fig. 1B, Abstract, col. 2, lines 42-45). Loan et al. also shows using a thermal CVD reaction to deposit a film onto a substrate, using the

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vaporizer for vaporizing a raw material to form a vapor phase deposition material (col. 3, lines 27-37, col. 5, lines 37-55).

In addition, Loan et al. shows the power supply for supplying a d.c. electrical potential to the substrate and orienting the crystal of the vapor phase material in the direction of the electrical field induced in the d.c. electrical potential (col. 3, lines 19-22, col. 9, lines 6-25). Loan et al. teaches the power supply having a power supply source and electrode terminals connected to the power supply source and to the substrate (Fig. 1B). Loan et al. teaches the DC bias being applied to the substrate chuck by a voltage source, the elevator shaft can also be biased in order to provide electrical bias across the substrate and generating an electromagnetic field, and a ceramic ring is used to electrically isolate the substrate chuck (col. 3, lines 20-23, col. 9, lines 6-25).

7. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaloyeros et al. (U.S. 6,077,571) (cited on parent).

Kaloyeros et al. teaches a semiconductor device manufacturing apparatus having a vaporizer and a power supply (Fig. 1). Kaloyeros et al. also shows the apparatus using a thermal CVD reaction to deposit a film onto a substrate, the vaporizer for vaporizing a raw material to form a vapor phase deposition material (col. 7, lines 60-67, col. 11, lines 10-65). The apparatus described by Kaloyeros et al. is capable of supplying a d.c. electrical potential to the substrate and orienting the crystal of the vapor phase material in the direction of the electrical field induced in the d.c. electrical potential (Fig. 1, col. 19, lines 8-10).

Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP 2114 and Ex parte Masham, 2 USPQ2d 1647(1987).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-6, 11, 13-14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loan et al. (U.S. 6,136,725) (cited on parent) in view of Stoner et al. (U.S. 5,397,428) (cited on parent).

Regarding claims 4-6, 11, 13-14, and 20, Loan et al. teaches certain control module loops may be incorporated to adapt or detect changes in other system components (col. 10, lines 20-65, col. 11, line 1-18, col. 12, lines 12-20). Loan et al. shows a temperature controller for controlling the temperature of the substrate (col. 11, lines 9-27).

Loan et al. does not specifically show the d.c. electrical potential controller and the detector as claimed. However, Stoner et al. shows the controller (having a detector) for controlling the electrical bias applied to the substrate (Fig. 1A, col. 3, lines 47-60, col. 5, lines 13-22).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Loan et al. reference by d.c. electrical potential controller as taught by Stoner et al. because Loan et al. suggested that other control module loops may be incorporated to adapt or detect changes.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-6, 11, 13, 14, 18, 20-21, 29, and 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,670,270. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-10 recite the basic steps of a semiconductor device manufacturing apparatus and the method that uses a thermal CVD reaction to deposit a film onto a substrate, said apparatus having a vaporizer and a power supply for supplying a d.c. electrical potential to the substrate.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dubin et al. (U.S. 5,695,810), Shimamura et al. (U.S. 4,963,239), and Yoshimura et al. (U.S. 5,917,980) cited on parent case 09/273,627. Moran et al. (U.S. 5,169,676), Mandal (U.S. 6,362,115), Kaloyeros et al. (U.S. 6,037,001), and Sivaramakrishnam et al. (U.S. 5,958,510) show several steps related to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 21, 2004

Maria Guerrero
MARIA F. GUERRERO
PRIMARY EXAMINER